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ABSTRACT

The completed WISC-R's (Wechsler Intelligence Scale for Children-Revised) of 76 white urban children with academic problems (6 years, 0 months to 15 years, 9 months) were rescored utilizing the Satz and Mogel criteria for an abbreviated intelligence measure. Extremely high correlations for IQ's (.96 - .98) and subtests (.66 - .95) were found. However, when mean differences between complete WISC-R and the shortened form were examined, significant differences between administrations were found. Furthermore, one third of the subjects showed changes in intelligence classification levels when the abbreviated form was used. Thus, two of the three criteria previously suggested for a valid abbreviated intelligence test of: (1) high correlation between administration forms; (2) non significant t-tests between the abbreviated and standard form mean IQ; and (3) low percentage of IQ classification change with the administration of the short form were not met. It was concluded, however, that the abbreviated WISC-R may be appropriate when intelligence is a question relative to candidacy for therapy or as a non-critical, general indication of intelligence when IQ classification is not important and/or assessment time is limited. (Author/RC)

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An Abbreviated Form of the WISC-R: Is It Valid?

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Summary

The completed WISC-R's of 76 white urban children (6 years, 0 months to 15 years, 9 months) were rescored utilizing the Satz and Mogel criteria for an abbreviated intelligence measure. Extremely high correlations for IQ's (.96 - .98) and subtests (.66 - .95) were found. However, when mean differences between complete WISC-R and the shortened form were examined, significant differences between administrations were found. Furthermore, one third of the subjects shows changes in intelligence classification levels when the abbreviated form was used. Thus, two of the three criteria previously suggested for a valid abbreviated intelligence test of : A) eye correlation between administration forms; B) non significant t - tests between the abbreviated and standard form mean IQ; and C) low percentage of IQ classification change with the administration of the short form were not met. It was concluded, however, that the abbreviated WISC-R may be appropriate when intelligence is a question relative to candidacy for therapy or as a non-critical, general indication of intelligence when IQ classification is not important and/or limited assessment time.

A. Introduction

The Satz-Mogel short form of the Wechsler Scale have consistently correlated highly (.92 - .99), regardless of intellectual level or diagnostic classification (3). The advantage of this shortened form over others is that it utilizes all of the subtests on the scales to produce an intellectual quotient. Yudin (6) developed an abbreviated form of the Wechsler Intelligence Scale for Children for use with emotionally disturbed children following the Satz-Mogel paradigm. He also utilized correlation factors on certain subtests and again high correlations - .96, .93 and .97 for verbal IQ (VIQ), performance (PIQ) and full scale IQ's (FSIQ) respectively. Similarly, a validation study by Satz, VandeRiet and Mogel (4) supported Yudin's conclusion about the usefulness of the WISC short form. Silverstein (55) concluded that the shortened form without the Yudin correction provided a satisfactory estimate of intelligence on the WAIS, WISC, and WPPSI.

Resnick and Entin (2) determined that the abbreviated form of the WISC was not appropriate for use unless 3 criteria were utilized: a) correlations between short form and the standard form should be highly significant; b) *t* - tests comparing the abbreviated and standard form mean IQ's should be non-significant; and c) the percentage of IQ classification changes should not be so great as to preclude the effective use of the abbreviated form. Finch, Ollendick, and Ginn (1) attempted to modify the Satz-Mogel format for the WISC

utilizing the Resnick-Entin criteria. While this abbreviated version of the WISC, known as the Devereus short form, met the criteria for mentally retarded individuals, the study did not justify the use of this particular short form with children of average or above average intelligence or those presenting problems of an emotional nature.

With the advent of the Wechsler Intelligence Scale for Children - Revised Edition (WISC-R) with its improved standardization and inclusion of minority groups, a new look at the abbreviated form delineated by Satz and Mogel seems appropriate. The purpose of the present study was to evaluate the validity of an abbreviated form of the WISC-R with children who have come to the attention of the mental health professionals because of learning difficulties.

B. Method

Seventy-six urban children, 46 males and 30 females between the ages of 6 years, 0 months and 15 years, 9 months, served as subjects (M = 10 years, 6 months, SD - 2 years, 6 months). Ranges for VIQ, PIQ and FSIQ were 79 - 136, 45 - 133, and 40 - 139, respectively. The children were drawn from mental hygiene clinics, educational treatment centers, and pediatric clinics. While these children cannot be considered representative of all children, they all were identified as having academic problems. Each child had a complete WISC-R administered and these protocols were rescored utilizing the Satz-Mogel criteria.

C. Results and Discussion

Table 1 presents the correlations between the full form

and the abbreviated version of 9 subtests and scales on the WISC-R. All correlations were significant (P .001). Table

(Insert Table 1 about here)

2 shows the means and standard deviations for each subtest and scale as well as t - test values for the differences between the full and abbreviated form. Similarities, arith-

(Insert Table 2 about here)

metic, vocabulary, comprehension, picture completion, picture arrangement, block design, and object assembly subtests and verbal, performance, and full scale IQ's were significantly different on the two versions of the WISC-R. Only vocabulary failed to show a significant difference between the two versions.

The results obtained are consistent with the previous studies indicating highly significant correlations between the full and abbreviated forms on the WISC scales. Thus, based on correlations alone the WISC-R would appear to be a viable abbreviated form utilizing the Satz-Mogel system. However, as in the Resnick and Entin study, when the data are further analyzed, significant differences were found between the two forms for all three IQ measures as well as for 8 of the 9 subtests.

The WISC-R shortened form meets the criterion of high correlations but does not meet the second criterion mentioned by Resnick and Entin, that of non-significant t - tests between forms. Furthermore, the third criterion of minimal

IQ classification change is not met. With respect to verbal IQ there were 21 changes in classification with 20 being categorized at a higher level of intelligence. 26 changes in classification were found for PIQ, 20 of which were higher, 6 lower in classification utilizing the abbreviated form. Lastly, on full scale IQ there were 26 alterations in classification with 22 receiving a higher categorization on the shortened form. Therefore, with one child in three showing changes in intellectual classification, the conclusion must be made that the percentage of change is so great as to preclude the effective use of the short form. Thus, the third criterion for a valid abbreviated intelligence test is, similarly, not met.

It is also worth noting that the abbreviated form tends to produce spuriously higher IQ's than the full WISC-R. That is, changes in intelligence quotients of at least 5 points were shown by 39, 28 and 31 subjects on verbal IQ, performance IQ, and full scale IQ, respectively.

By way of summary, it must be concluded that this abbreviated form of the WISC-R meets only one of three criteria for usefulness, i.e., highly significant correlations. Further analysis indicates that the abbreviated WISC-R is of questionable validity and not an acceptable substitute for the standard WISC-R because of the significant t - tests and the alteration of IQ classification, generally to a higher level in over 1/3 of the subjects. Since intellectual classification for educational placement is a frequent referral question it seems obvious that the use of the abbreviated WISC-R is precluded in such situations.

However, when intelligence is a question relative to candidacy for therapy or only a general indication of intelligence is requested as part of a comprehensive battery with limited time, then the shortened form may be appropriate.

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TABLE 1

CORRELATIONS BETWEEN FULL AND ABBREVIATED FORMS OF WISC-R SUBTESTS AND SCALES

Subtest or Scale	Correlation*
Verbal IQ	.97
Performance IQ	.96
Full Scale IQ	.98
Information	.89
Comprehension	.91
Arithmetic	.89
Similarities	.95
Vocabulary	.89
Picture Completion	.86
Picture Arrangement	.88
Block Design	.91
Object Assembly	.66

* All ps < .001

TABLE 2

MEANS, STANDARD DEVIATIONS, AND t TESTS FOR SCALES AND SUBTESTS ON THE WISC-R

Scale or subtest	Full WISC-R		Abbreviated WISC-R		t
	M	SD	M	SD	
Verbal IQ	97.97	19.14	101.83	20.00	6.88**
Performance IQ	96.25	18.55	98.76	19.06	3.95**
Full Scale IQ	97.00	19.12	100.34	19.68	7.17**
Information	9.14	3.60	8.92	3.92	-1.09
Comprehension	9.42	3.45	10.24	3.69	4.62**
Arithmetic	9.00	3.37	9.95	3.70	4.83**
Similarities	10.29	4.25	11.12	4.55	4.91**
Vocabulary	10.82	3.65	11.64	3.91	4.05**
Picture Completion	9.67	3.34	10.64	4.20	3.87**
Picture Arrangement	9.58	3.45	10.51	3.64	4.69**
Block Design	9.45	3.54	8.46	3.83	5.45**
Object Assembly	10.36	3.31	11.17	3.49	2.55*

*$p < .05$.
**$p < .01$.